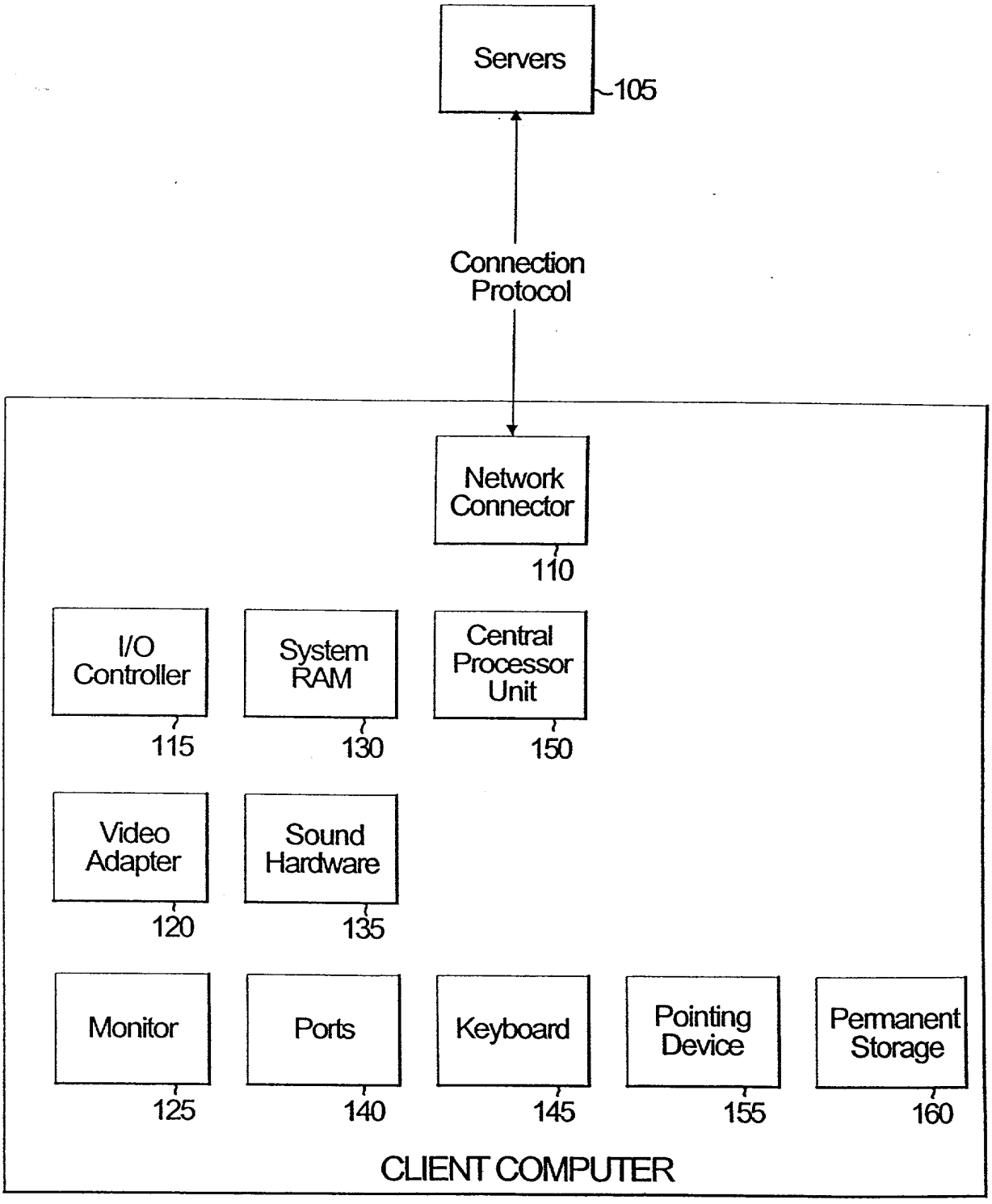
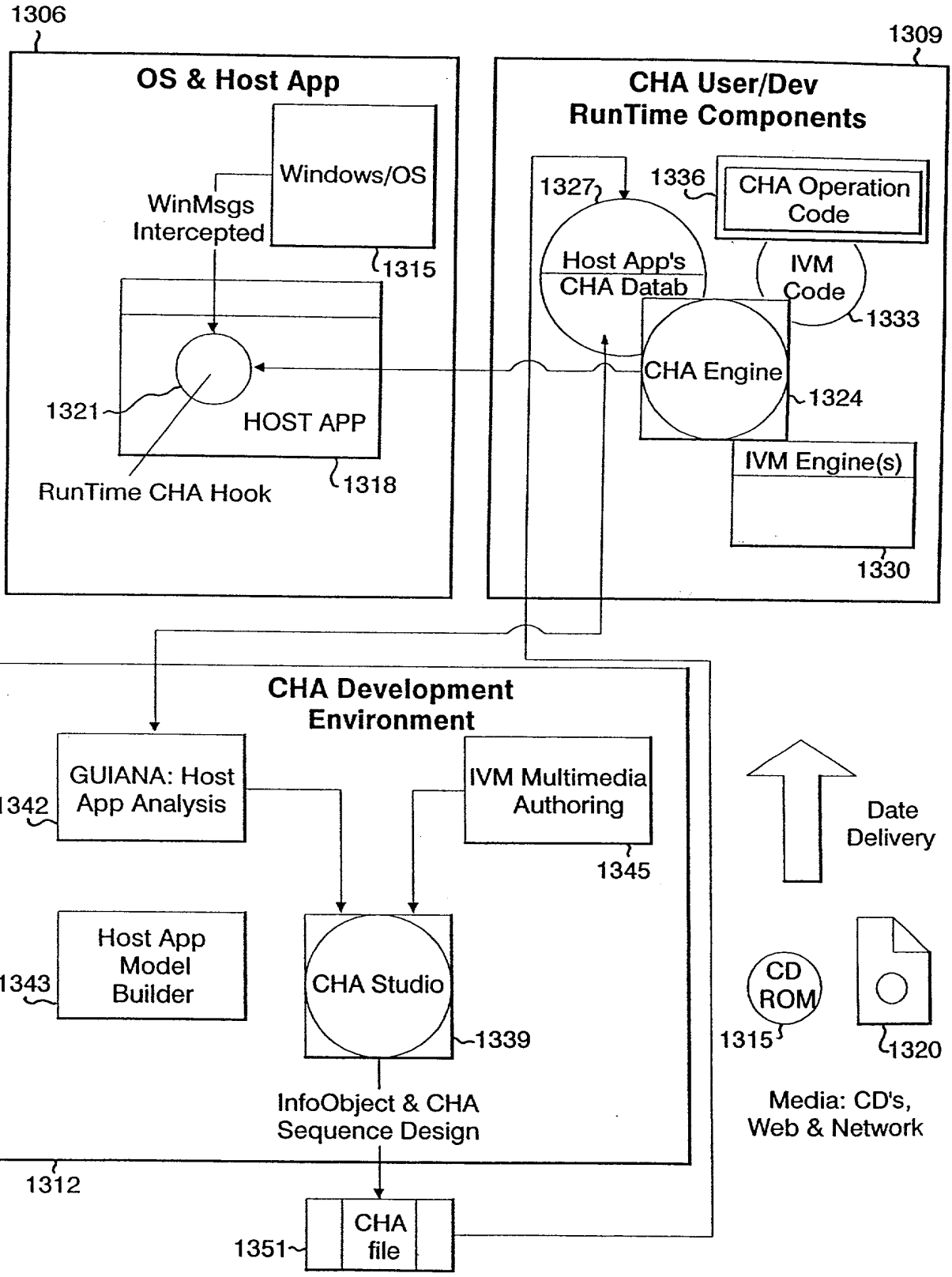

Servers
105
Connection Protocol
Network Connector
110
I/O Controller
115
System RAM
130
Central Processor Unit
150
Video Adapter
120
Sound Hardware
135
Monitor
125
Ports
140
Keyboard
145
Pointing Device
155
Permanent Storage
160
CLIENT COMPUTER

Fig. 1

Fig. 1A


1306
OS & Host App
Windows/OS
WinMsgs Intercepted
1315
1321
HOST APP
RunTime CHA Hook
1318
1309
CHA User/Dev RunTime Components
1327
1336
CHA Operation Code
Host App's CHA Datab
IVM Code
1333
CHA Engine
1324
IVM Engine(s)
1330
CHA Development Environment
GUIANA: Host App Analysis
1342
IVM Multimedia Authoring
1345
Host App Model Builder
1343
CHA Studio
1339
InfoObject & CHA Sequence Design
1312
CHA file
1351
Date Delivery
CD ROM
1315
1320
Media: CD's, Web & Network

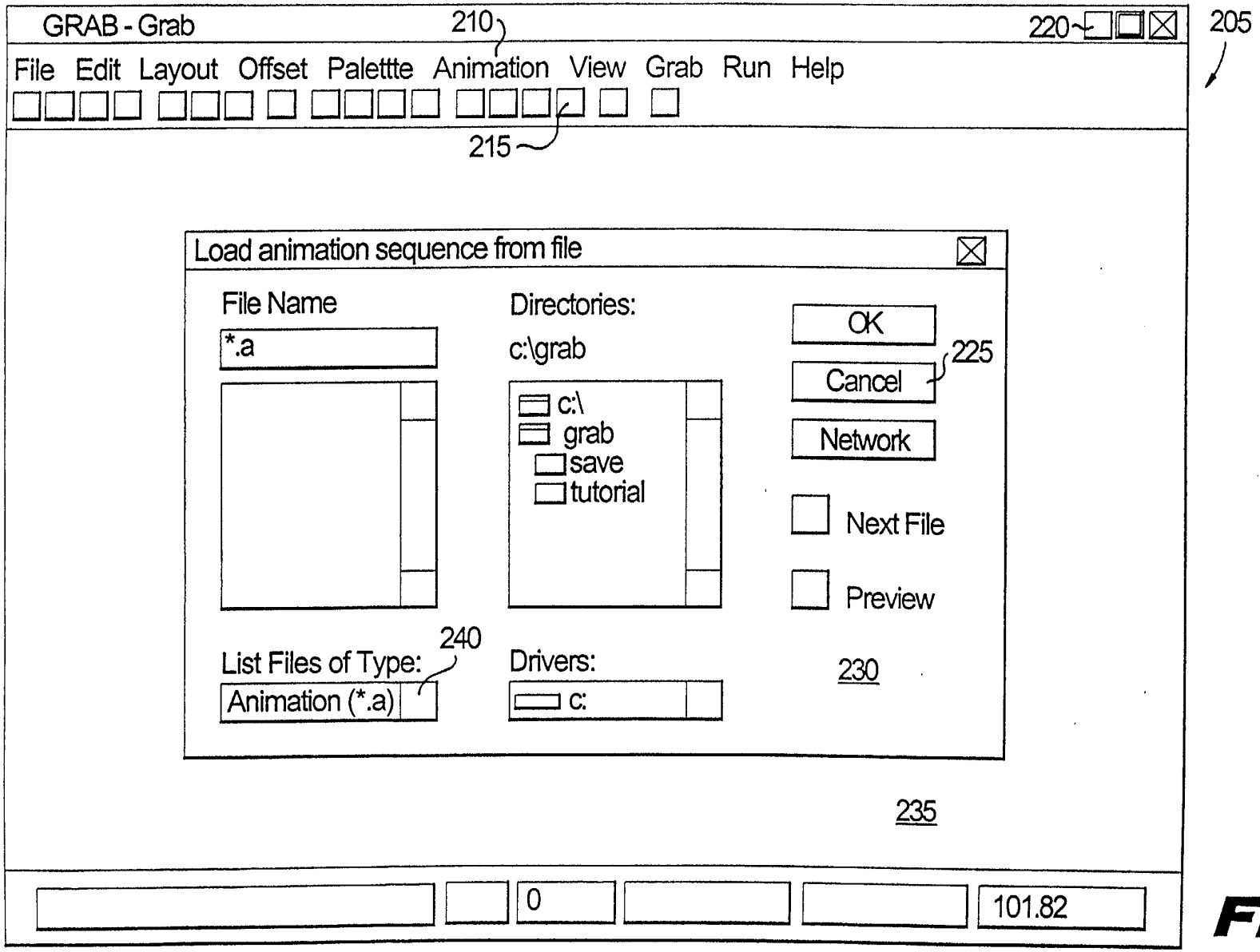
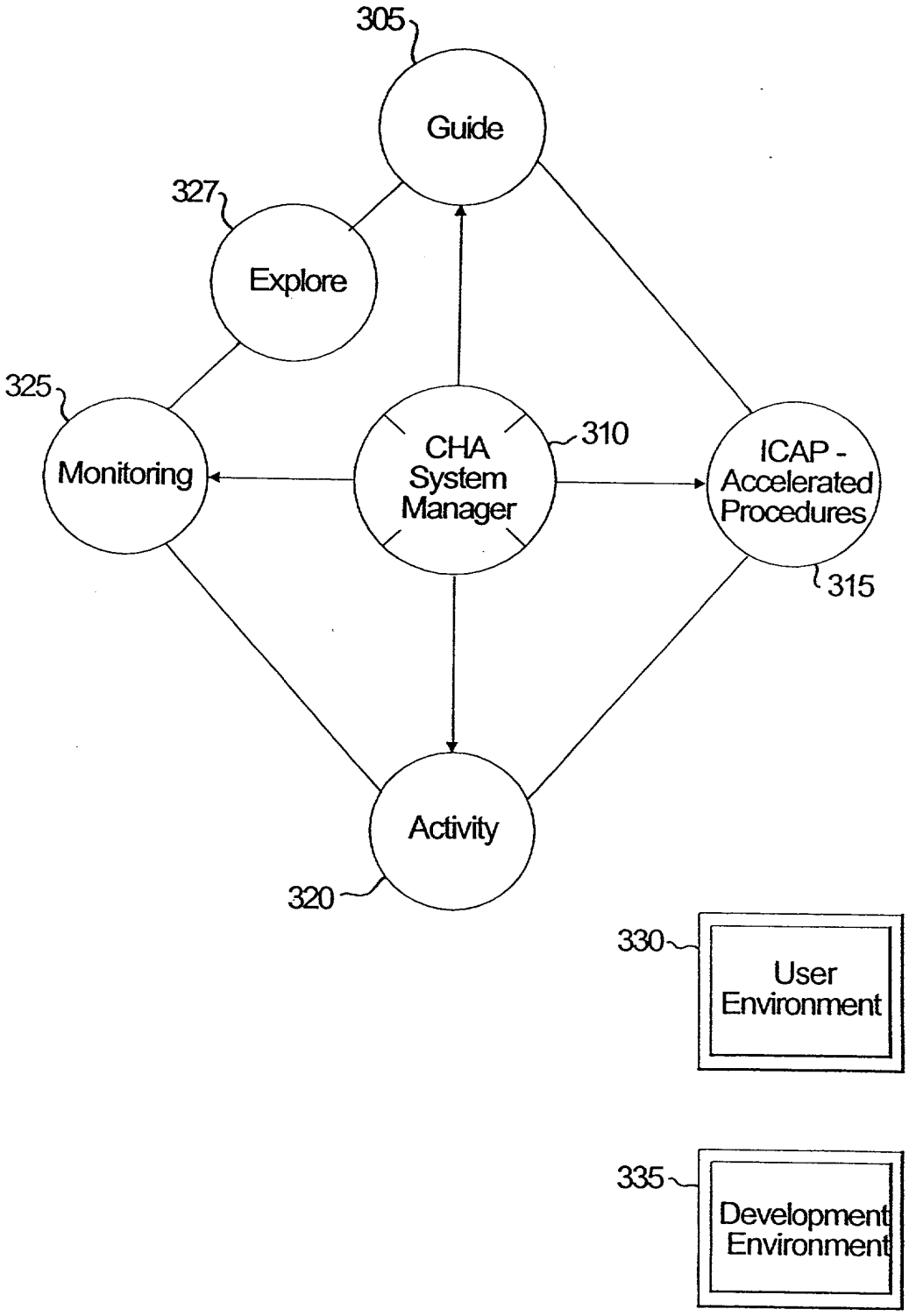

GRAB - Grab
210
220
205
File Edit Layout Offset Palettte Animation View Grab Run Help
215
Load animation sequence from file
File Name
*.a
Directories:
c:\grab
c:\
grab
save
tutorial
OK
Cancel
225
Network
Next File
Preview
List Files of Type:
240
Animation (*.a)
Drivers:
c:
230
235
0
101.82

Fig. 2

Fig. 3


305
Guide
327
Explore
325
Monitoring
CHA
System
Manager
310
ICAP -
Accelerated
Procedures
315
Activity
320
330
User
Environment
335
Development
Environment

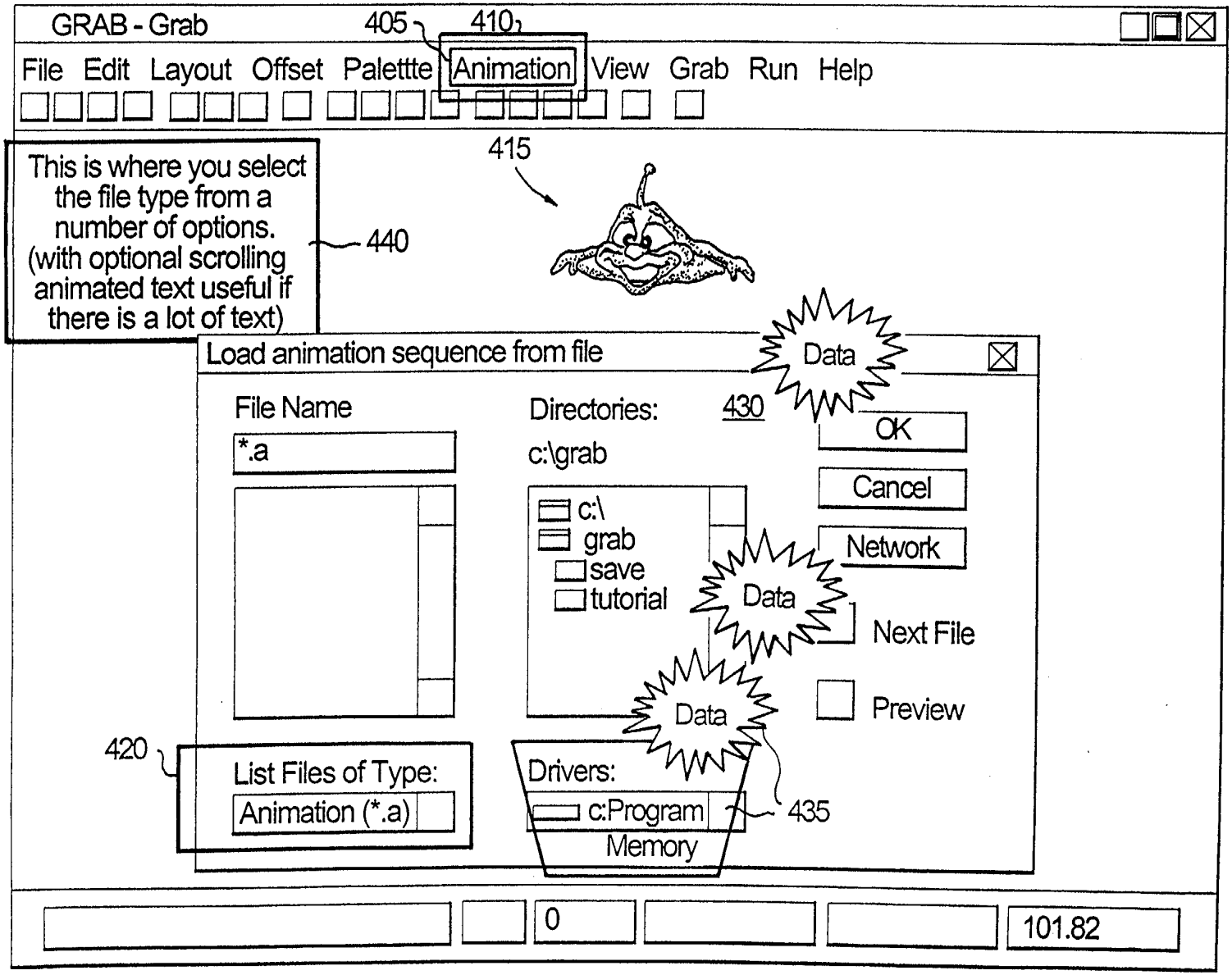

GRAB - Grab
405
410
File Edit Layout Offset Palettte Animation View Grab Run Help
This is where you select the file type from a number of options. (with optional scrolling animated text useful if there is a lot of text)
440
415
Load animation sequence from file
Data
File Name
*.a
Directories:
430
c:\grab
OK
Cancel
c:\
grab
save
tutorial
Network
Data
Next File
Data
Preview
420
List Files of Type:
Animation (*.a)
Drivers:
c:Program
435
Memory
0
101.82

Fig. 4

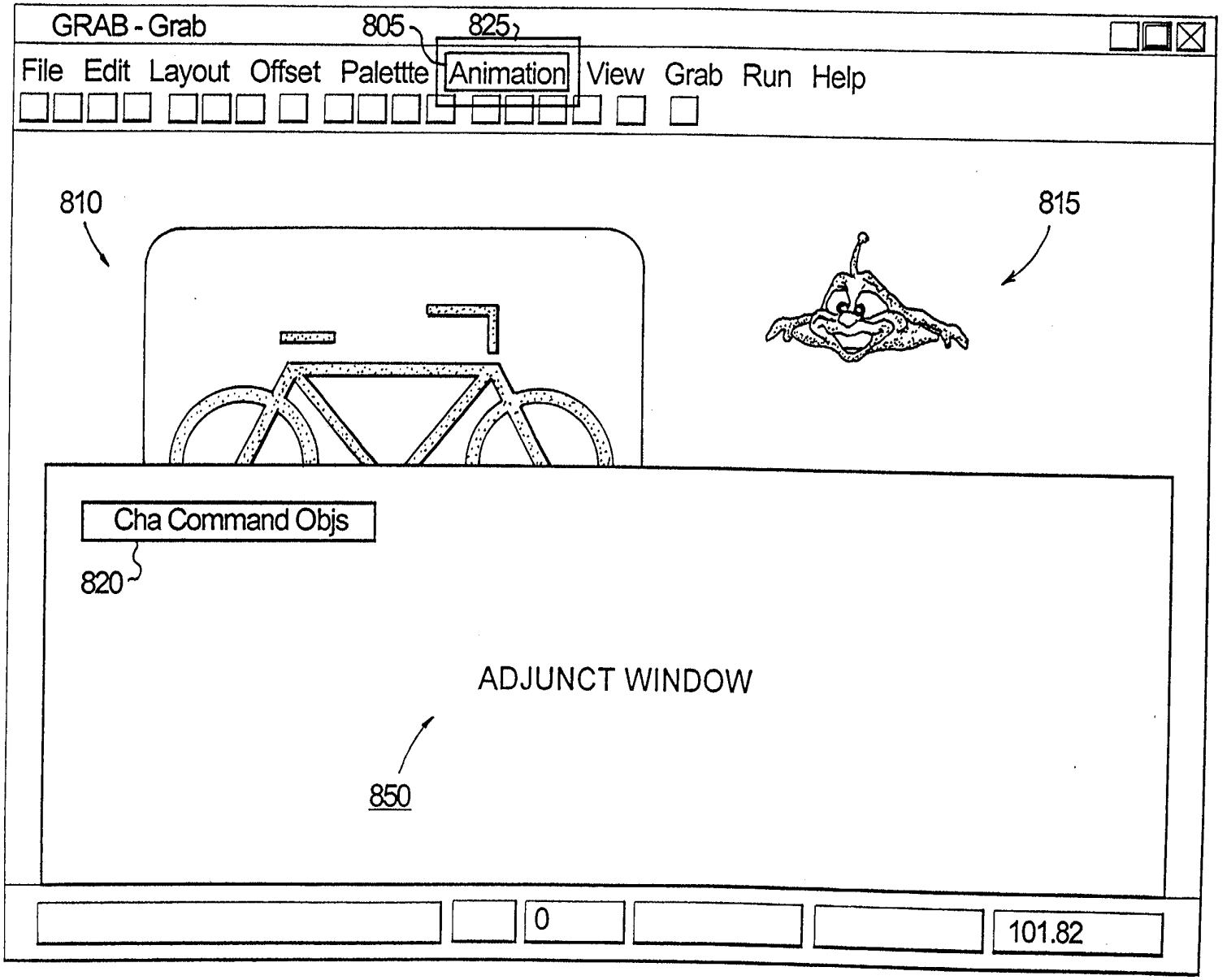

GRAB - Grab
805
825
File Edit Layout Offset Palettte Animation View Grab Run Help
810
815
Cha Command Objs
820
ADJUNCT WINDOW
850
0
101.82

Fig. 5

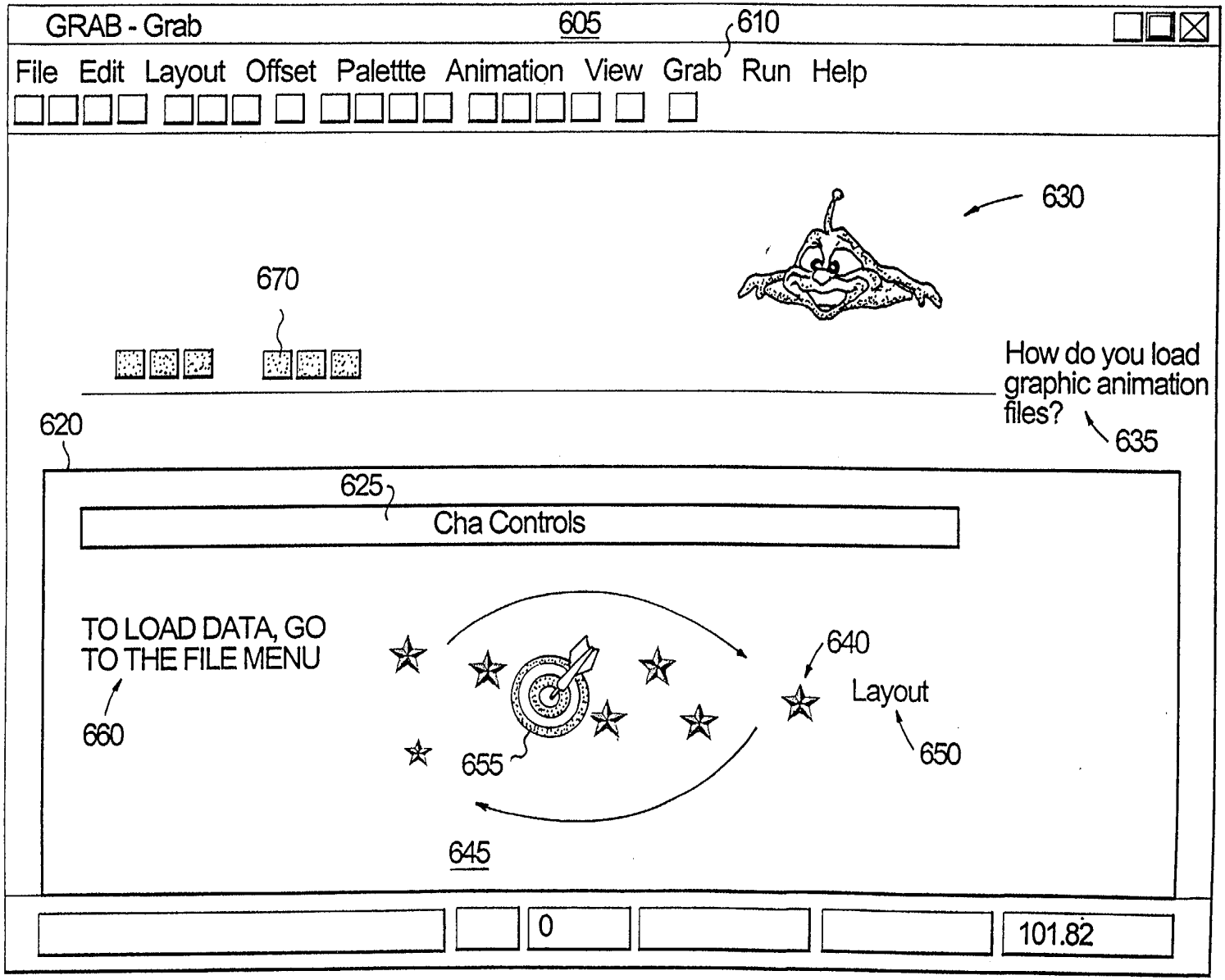

GRAB - Grab
605
610
File Edit Layout Offset Palettte Animation View Grab Run Help
630
670
How do you load graphic animation files?
635
620
625
Cha Controls
TO LOAD DATA, GO TO THE FILE MENU
660
640
Layout
650
655
645
0
101.82

Fig. 6

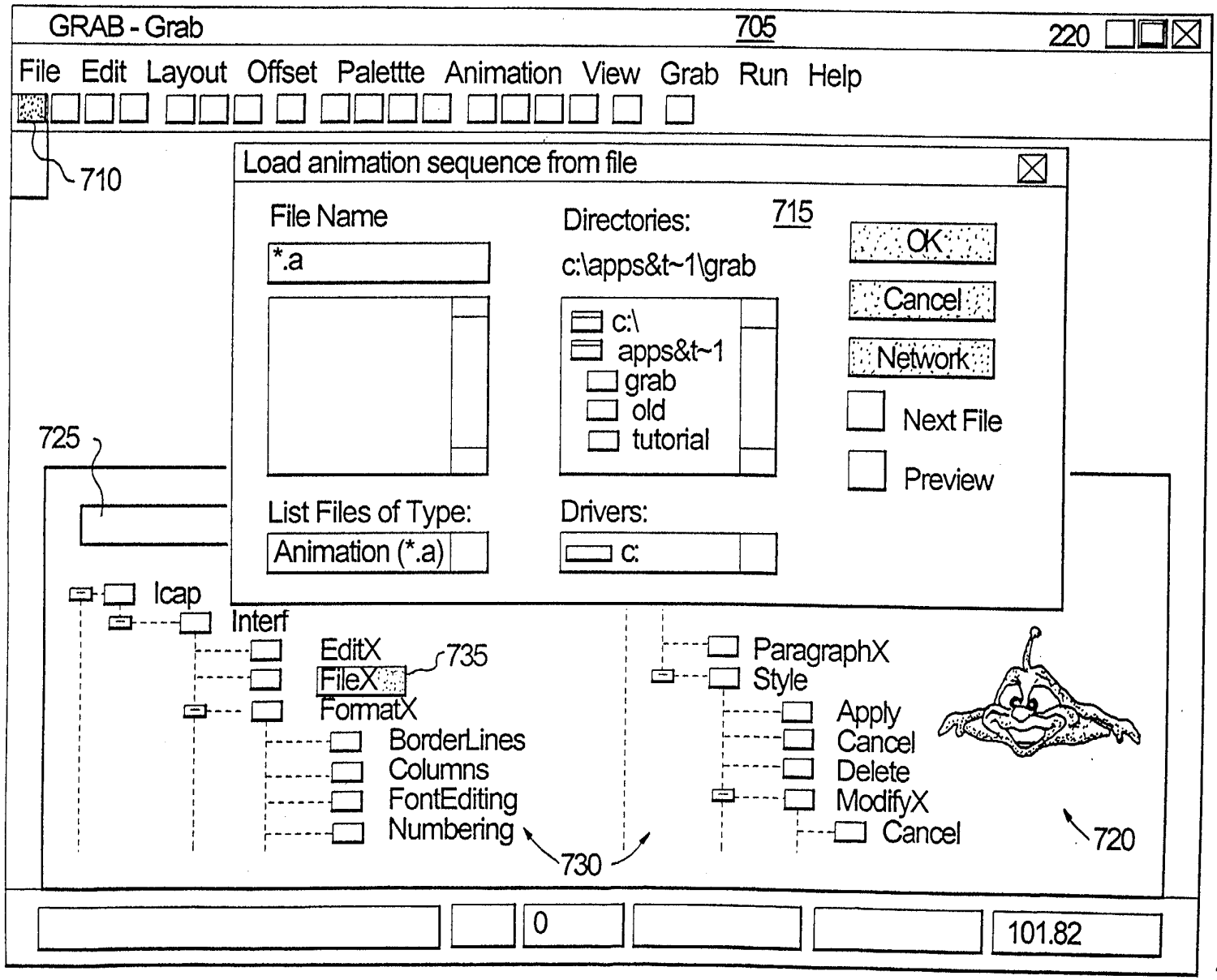
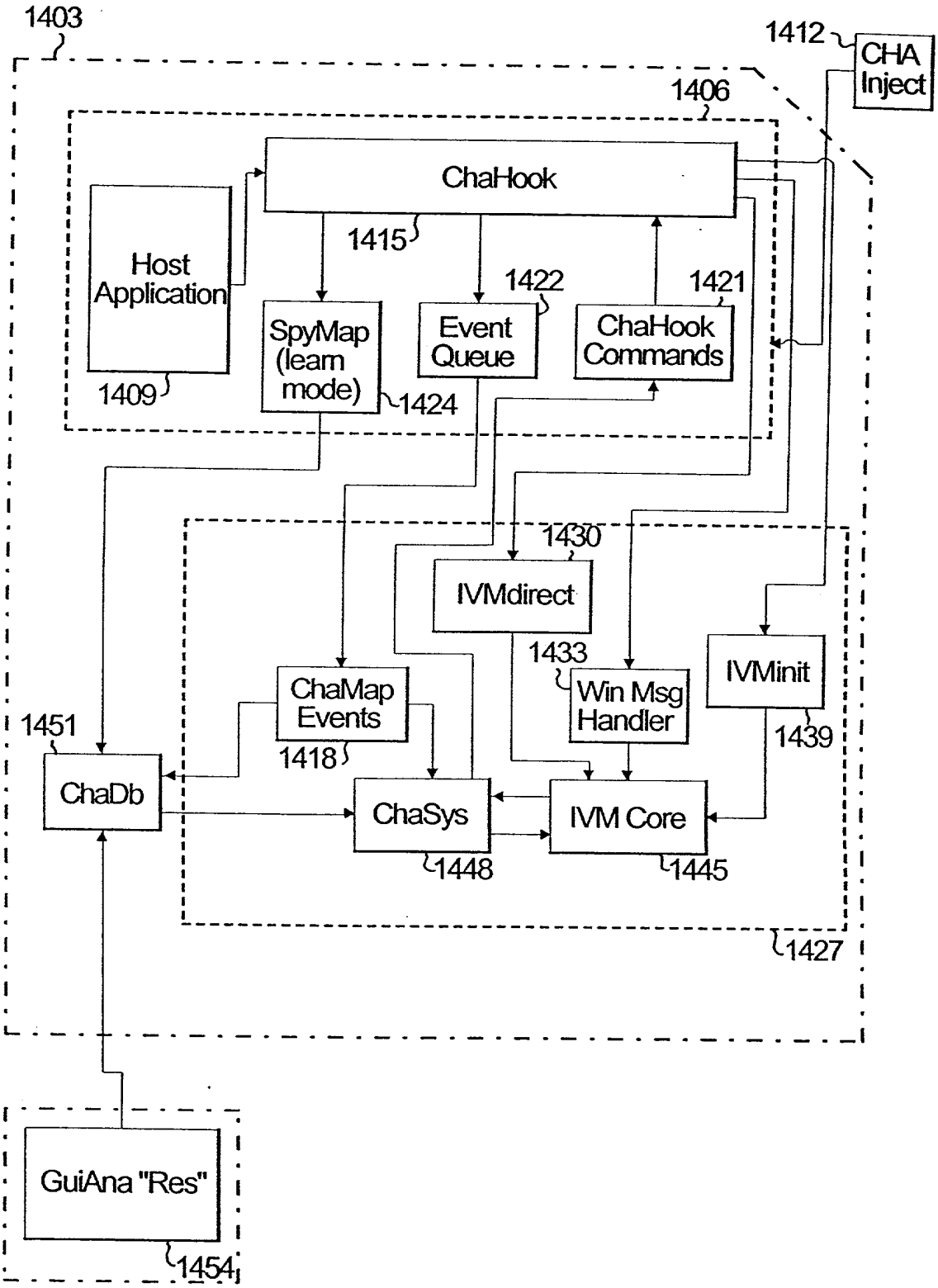

GRAB - Grab
705
220
File Edit Layout Offset Palettte Animation View Grab Run Help
710
Load animation sequence from file
File Name
*.a
Directories:
715
c:\apps&t~1\grab
c:\
apps&t~1
grab
old
tutorial
OK
Cancel
Network
Next File
Preview
725
List Files of Type:
Animation (*.a)
Drivers:
c:
Icap
Interf
EditX
FileX
735
FormatX
BorderLines
Columns
FontEditing
Numbering
730
ParagraphX
Style
Apply
Cancel
Delete
ModifyX
Cancel
720
0
101.82

Fig. 6A

Fig. 7


1403
1412
CHA Inject
1406
ChaHook
1415
Host Application
1409
SpyMap (learn mode)
1424
1422
Event Queue
1421
ChaHook Commands
1430
IVMdirect
1433
Win Msg Handler
IVMinit
1439
ChaMap Events
1418
1451
ChaDb
ChaSys
1448
IVM Core
1445
1427
GuiAna "Res"
1454

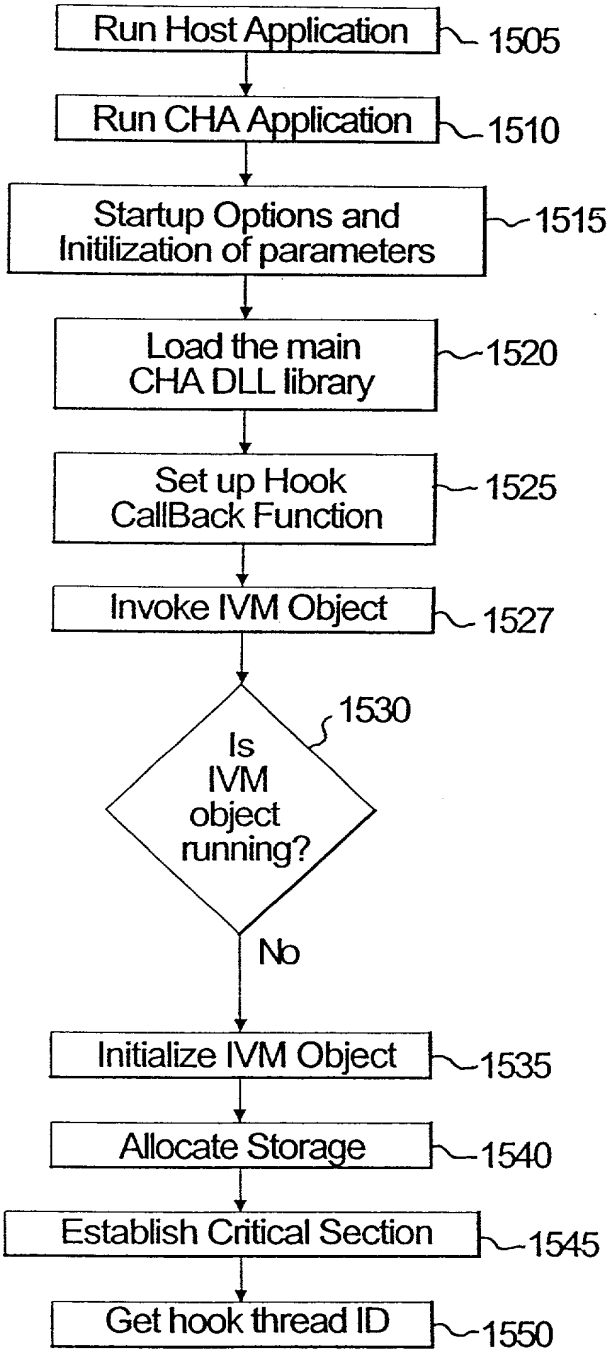
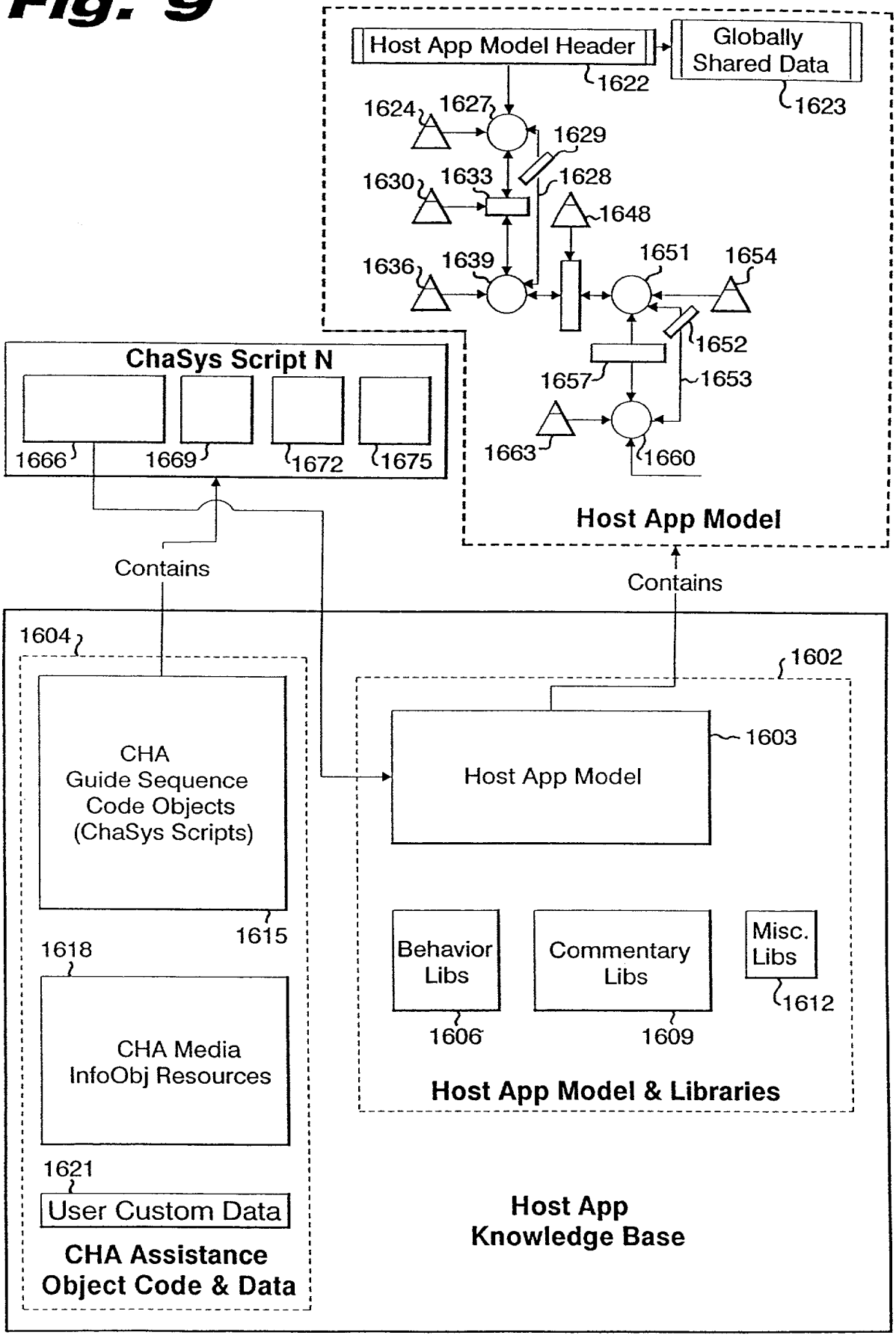

Run Host Application
1505
Run CHA Application
1510
Startup Options and Initilization of parameters
1515
Load the main CHA DLL library
1520
Set up Hook CallBack Function
1525
Invoke IVM Object
1527
1530
Is IVM object running?
No
Initialize IVM Object
1535
Allocate Storage
1540
Establish Critical Section
1545
Get hook thread ID
1550

Fig. 8

Fig. 9


Host App Model Header
1622
Globally Shared Data
1623
1624
1627
1629
1630
1633
1628
1648
1636
1639
1651
1654
1652
1657
1653
1663
1660
Host App Model
ChaSys Script N
1666
1669
1672
1675
Contains
Contains
1604
1602
CHA Guide Sequence Code Objects (ChaSys Scripts)
1615
1603
Host App Model
1618
CHA Media InfoObj Resources
Behavior Libs
1606
Commentary Libs
1609
Misc. Libs
1612
Host App Model & Libraries
1621
User Custom Data
CHA Assistance Object Code & Data
Host App Knowledge Base

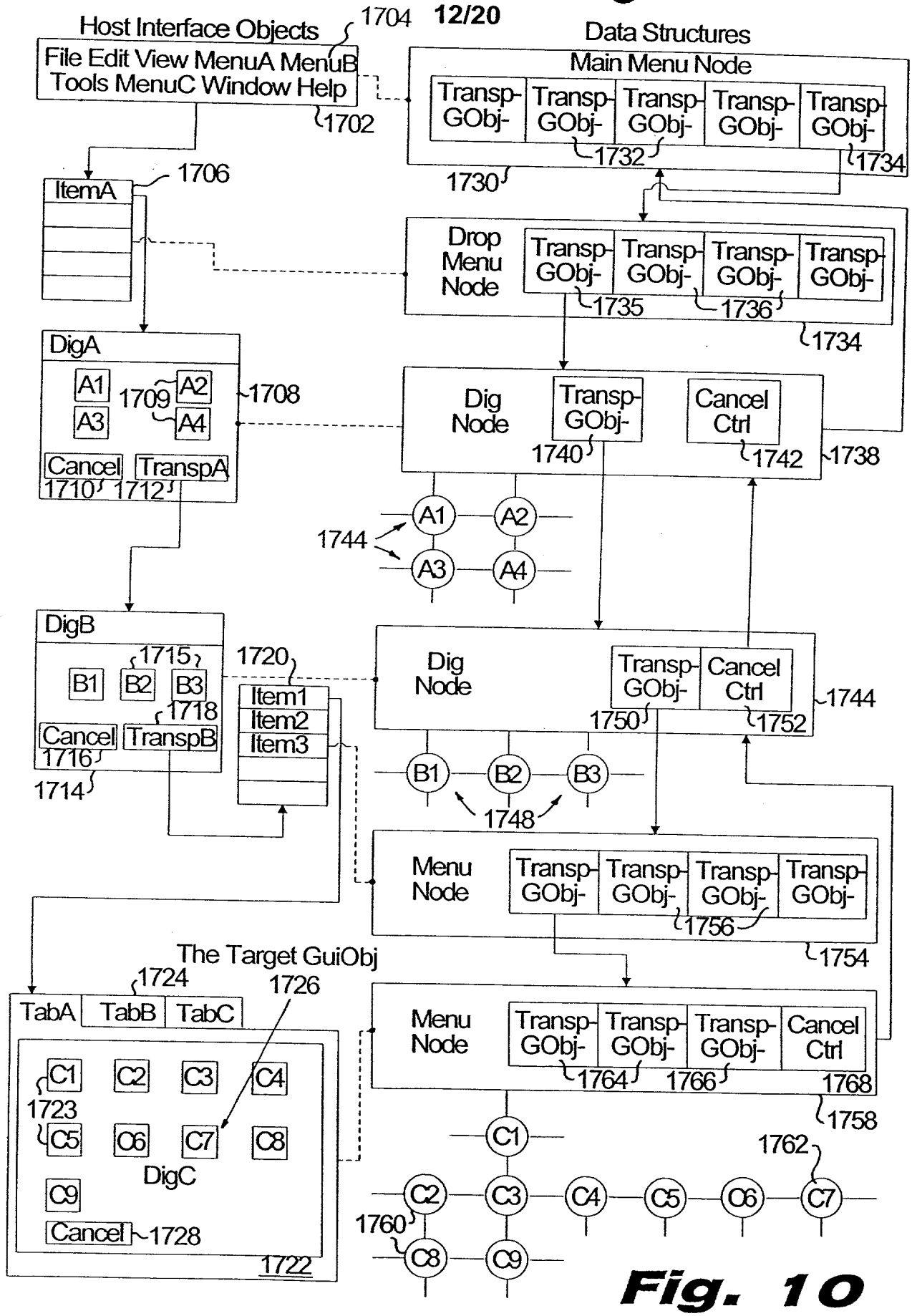

Host Interface Objects
1704
File Edit View MenuA MenuB
Tools MenuC Window Help
1702
Data Structures
Main Menu Node
Transp-GObj-
1732
1734
1730
ItemA
1706
Drop Menu Node
1735
1736
DigA
A1
A2
A3
A4
1709
1708
Cancel
TranspA
1710
1712
Dig Node
1740
Cancel Ctrl
1742
1738
1744
DigB
1715
B1
B2
B3
1718
1720
Item1
Item2
Item3
Cancel
TranspB
1716
1714
1750
1752
1748
Menu Node
1756
1754
The Target GuiObj
1724
1726
TabA
TabB
TabC
C1
C2
C3
C4
1723
C5
C6
C7
C8
DigC
C9
Cancel
1728
1722
1764
1766
1768
1758
1762
1760

Fig. 10

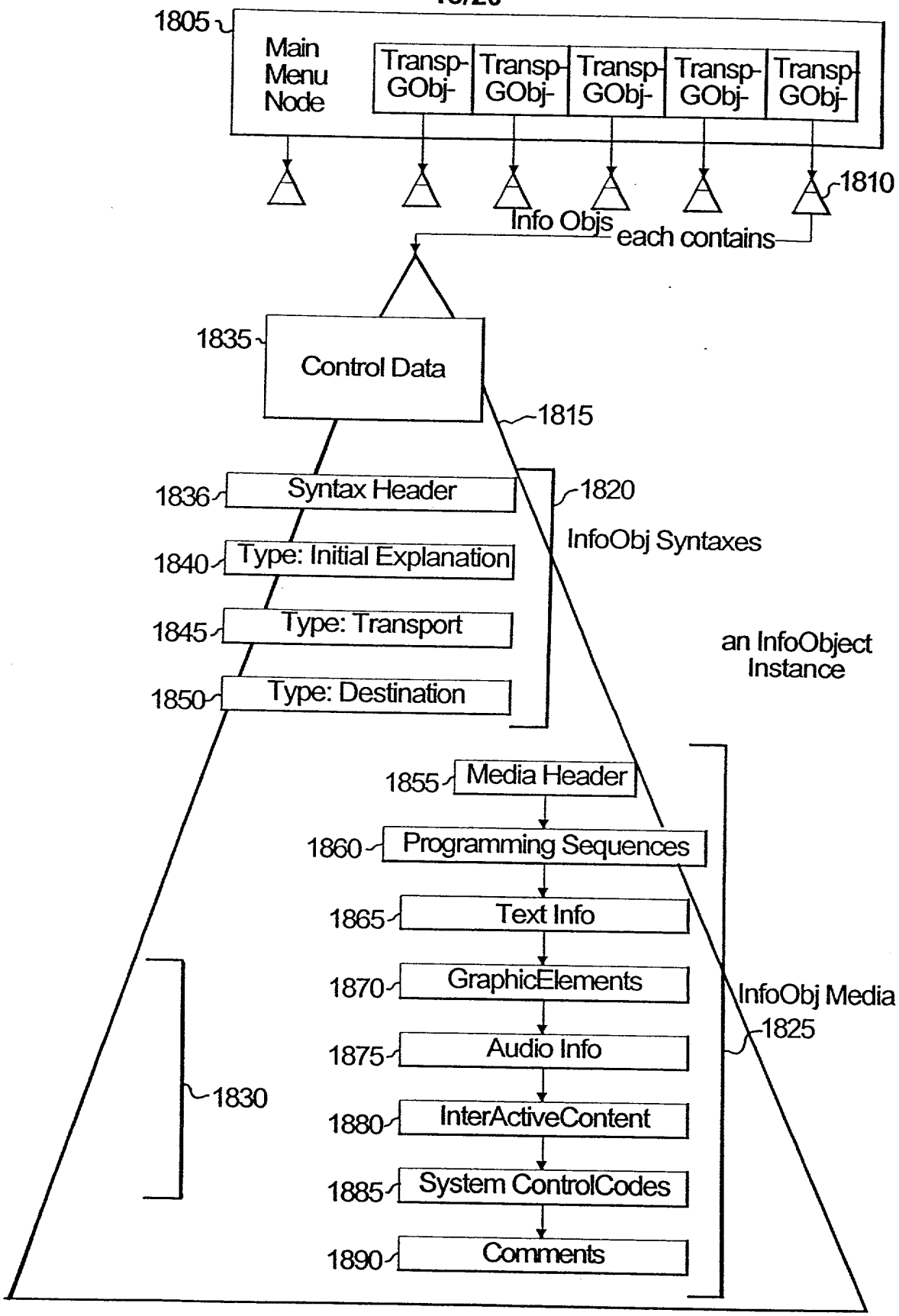

1805
Main Menu Node
Transp-GObj-
Transp-GObj-
Transp-GObj-
Transp-GObj-
Transp-GObj-
1810
Info Objs each contains
1835
Control Data
1815
1836
Syntax Header
1820
InfoObj Syntaxes
1840
Type: Initial Explanation
1845
Type: Transport
1850
Type: Destination
an InfoObject Instance
1855
Media Header
1860
Programming Sequences
1865
Text Info
1870
GraphicElements
1875
Audio Info
1880
InterActiveContent
1885
System ControlCodes
1890
Comments
InfoObj Media
1825
1830

Fig. 11

Fig. 12

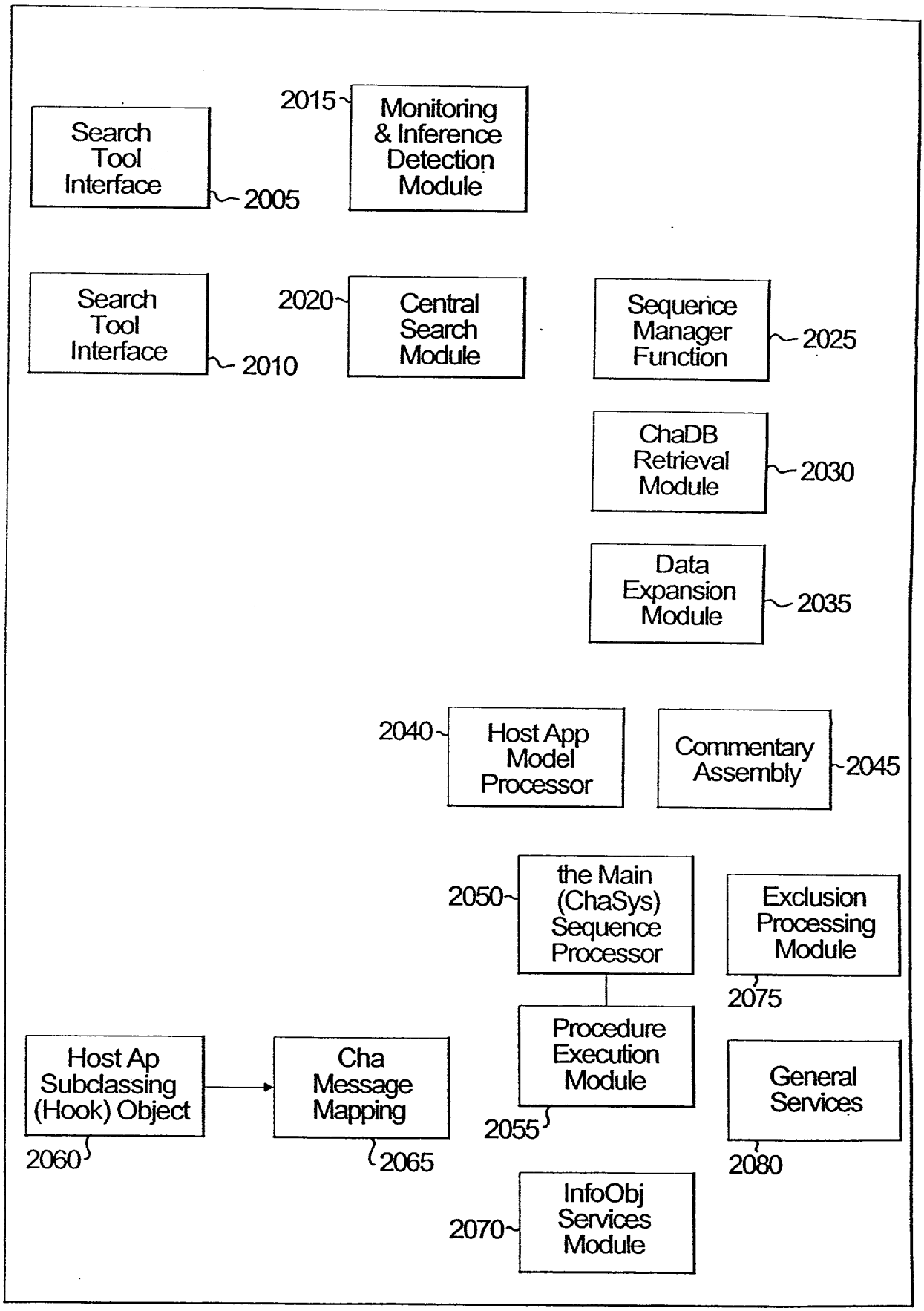

Search Tool Interface
2005
2015
Monitoring & Inference Detection Module
Search Tool Interface
2010
2020
Central Search Module
Sequence Manager Function
2025
ChaDB Retrieval Module
2030
Data Expansion Module
2035
2040
Host App Model Processor
Commentary Assembly
2045
2050
the Main (ChaSys) Sequence Processor
Exclusion Processing Module
2075
Procedure Execution Module
2055
Host Ap Subclassing (Hook) Object
2060
Cha Message Mapping
2065
General Services
2080
2070
InfoObj Services Module

Fig. 13

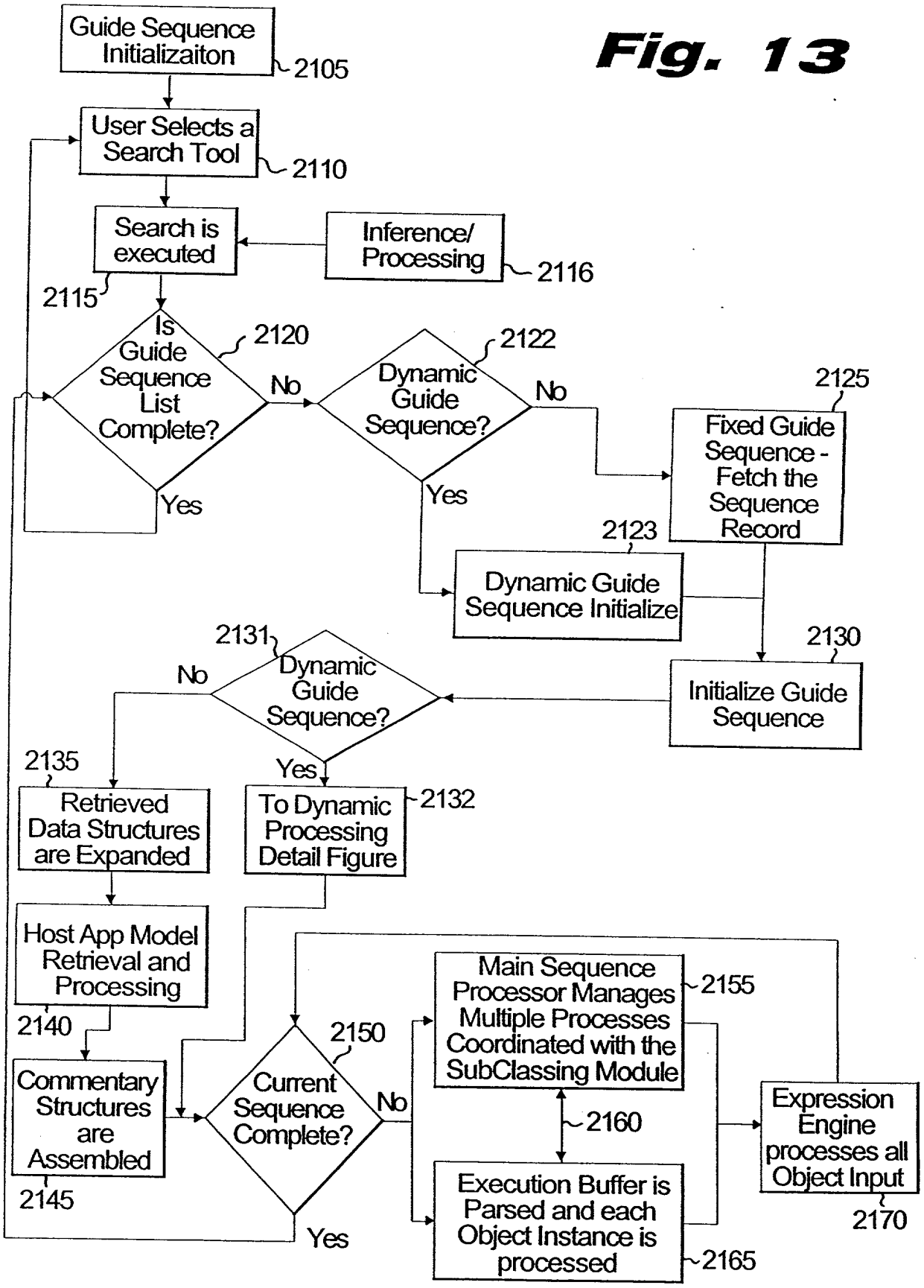
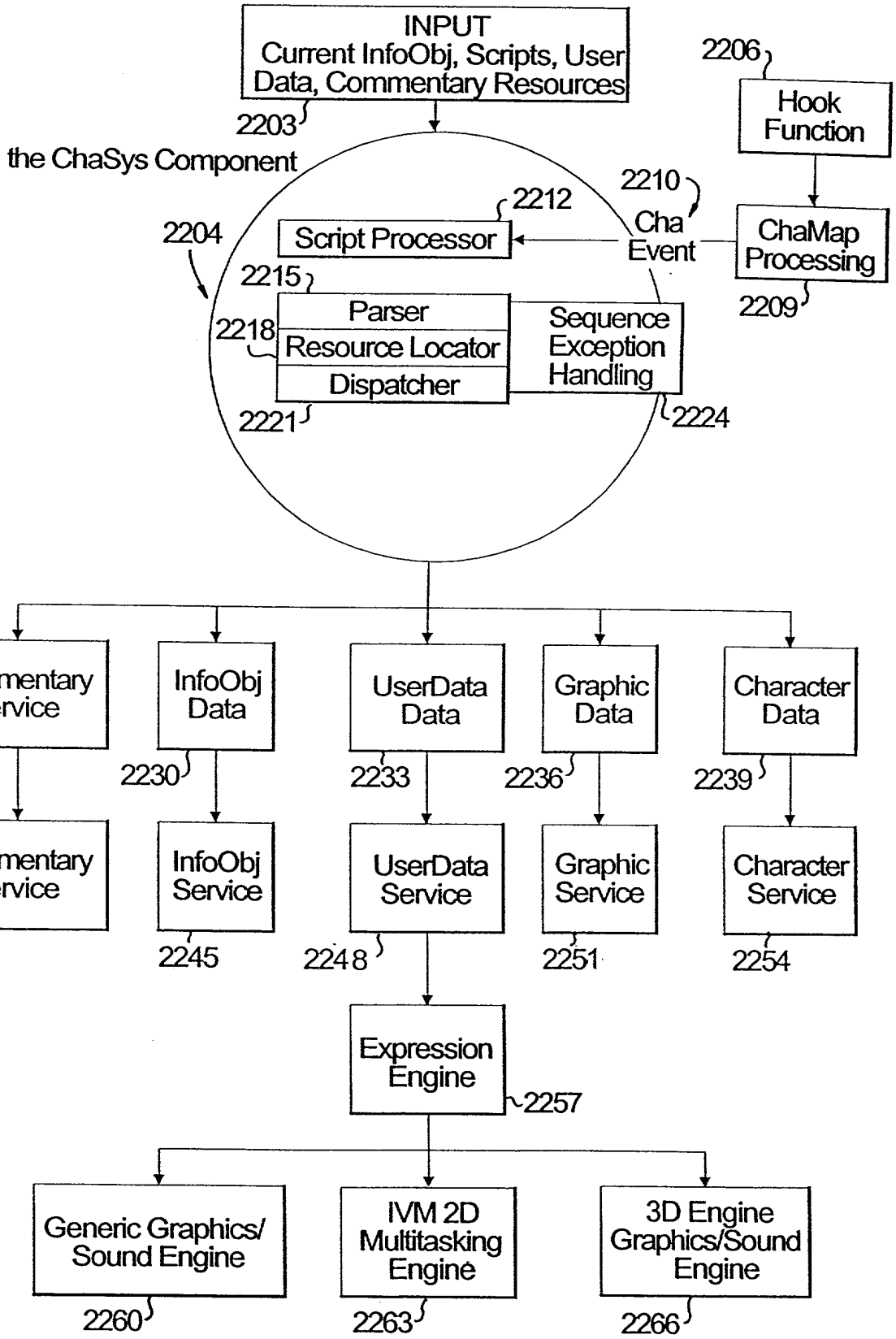

Guide Sequence Initializaiton
2105
User Selects a Search Tool
2110
Search is executed
2115
Inference/ Processing
2116
Is Guide Sequence List Complete?
2120
No
Yes
Dynamic Guide Sequence?
2122
No
Yes
2125
Fixed Guide Sequence - Fetch the Sequence Record
2123
Dynamic Guide Sequence Initialize
2130
Initialize Guide Sequence
2131
Dynamic Guide Sequence?
No
Yes
2135
Retrieved Data Structures are Expanded
To Dynamic Processing Detail Figure
2132
Host App Model Retrieval and Processing
2140
Commentary Structures are Assembled
2145
2150
Current Sequence Complete?
No
Yes
Main Sequence Processor Manages Multiple Processes Coordinated with the SubClassing Module
2155
2160
Execution Buffer is Parsed and each Object Instance is processed
2165
Expression Engine processes all Object Input
2170

Fig. 14


INPUT
Current InfoObj, Scripts, User Data, Commentary Resources
2203
2206
Hook Function
the ChaSys Component
2204
2210
Cha Event
2212
Script Processor
ChaMap Processing
2209
2215
Parser
2218
Resource Locator
Dispatcher
2221
Sequence Exception Handling
2224
Commentary Service
2227
InfoObj Data
2230
UserData Data
2233
Graphic Data
2236
Character Data
2239
Commentary Service
2242
InfoObj Service
2245
UserData Service
2248
Graphic Service
2251
Character Service
2254
Expression Engine
2257
Generic Graphics/ Sound Engine
2260
IVM 2D Multitasking Engine
2263
3D Engine Graphics/Sound Engine
2266

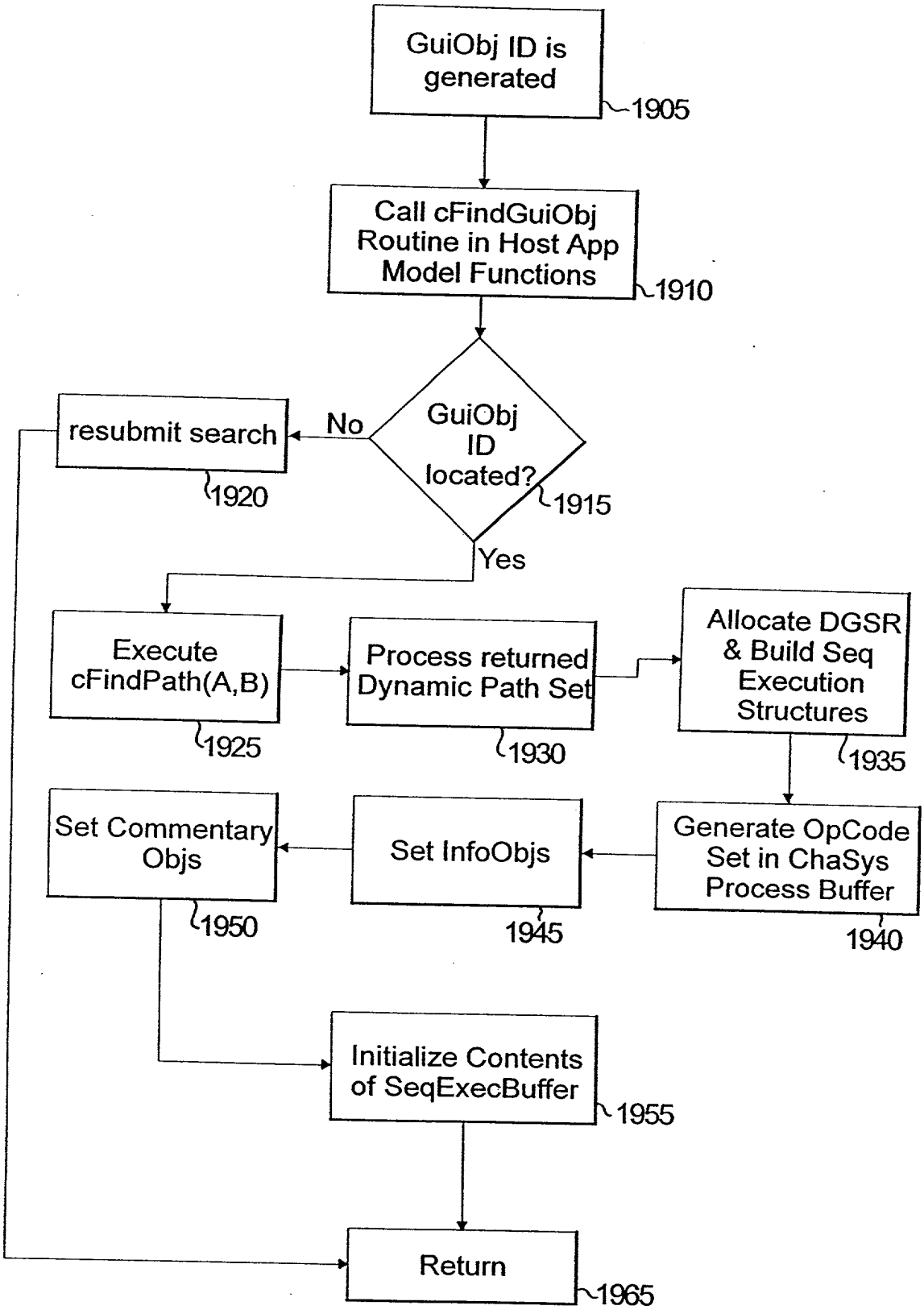

GuiObj ID is generated
1905
Call cFindGuiObj Routine in Host App Model Functions
1910
GuiObj ID located?
1915
No
resubmit search
1920
Yes
Execute cFindPath(A,B)
1925
Process returned Dynamic Path Set
1930
Allocate DGSR & Build Seq Execution Structures
1935
Generate OpCode Set in ChaSys Process Buffer
1940
Set InfoObjs
1945
Set Commentary Objs
1950
Initialize Contents of SeqExecBuffer
1955
Return
1965

Fig. 14A

Fig. 15

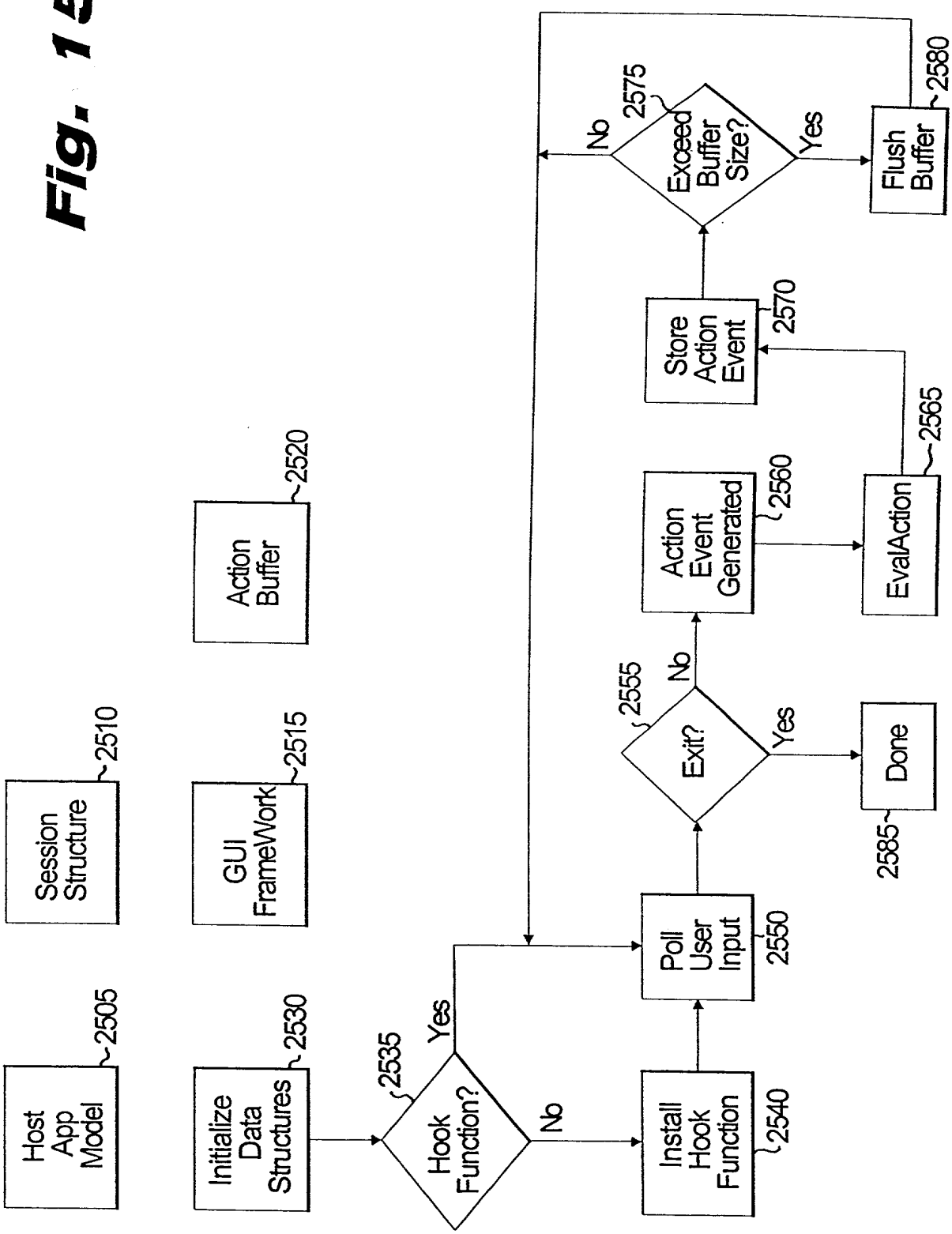

Host App Model
2505
Session Structure
2510
GUI FrameWork
2515
Action Buffer
2520
Initialize Data Structures
2530
Hook Function?
2535
Yes
No
Install Hook Function
2540
Poll User Input
2550
Exit?
2555
No
Yes
Action Event Generated
2560
EvalAction
2565
Store Action Event
2570
Exceed Buffer Size?
2575
No
Yes
Flush Buffer
2580
Done
2585

Fig. 15A

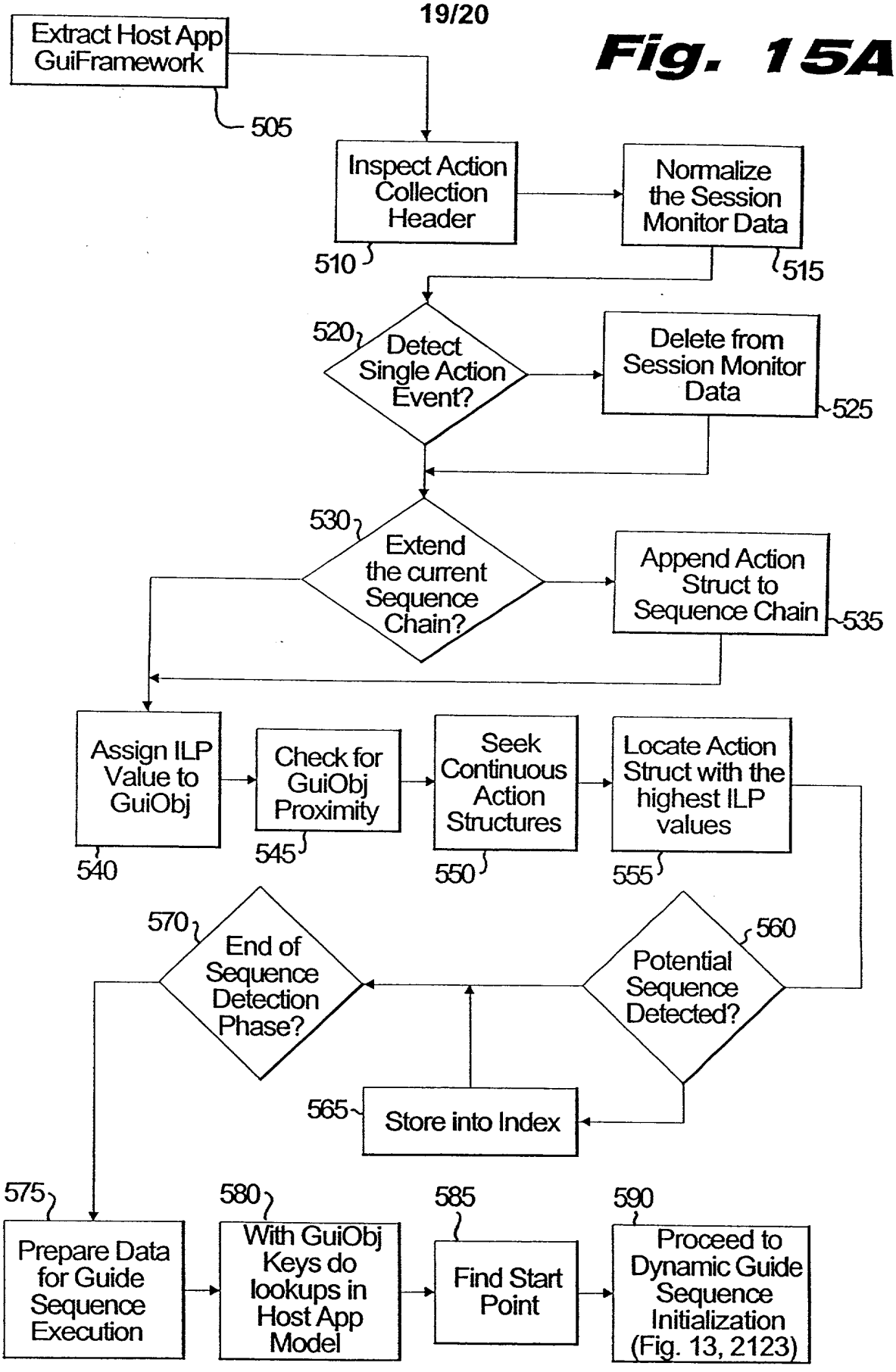
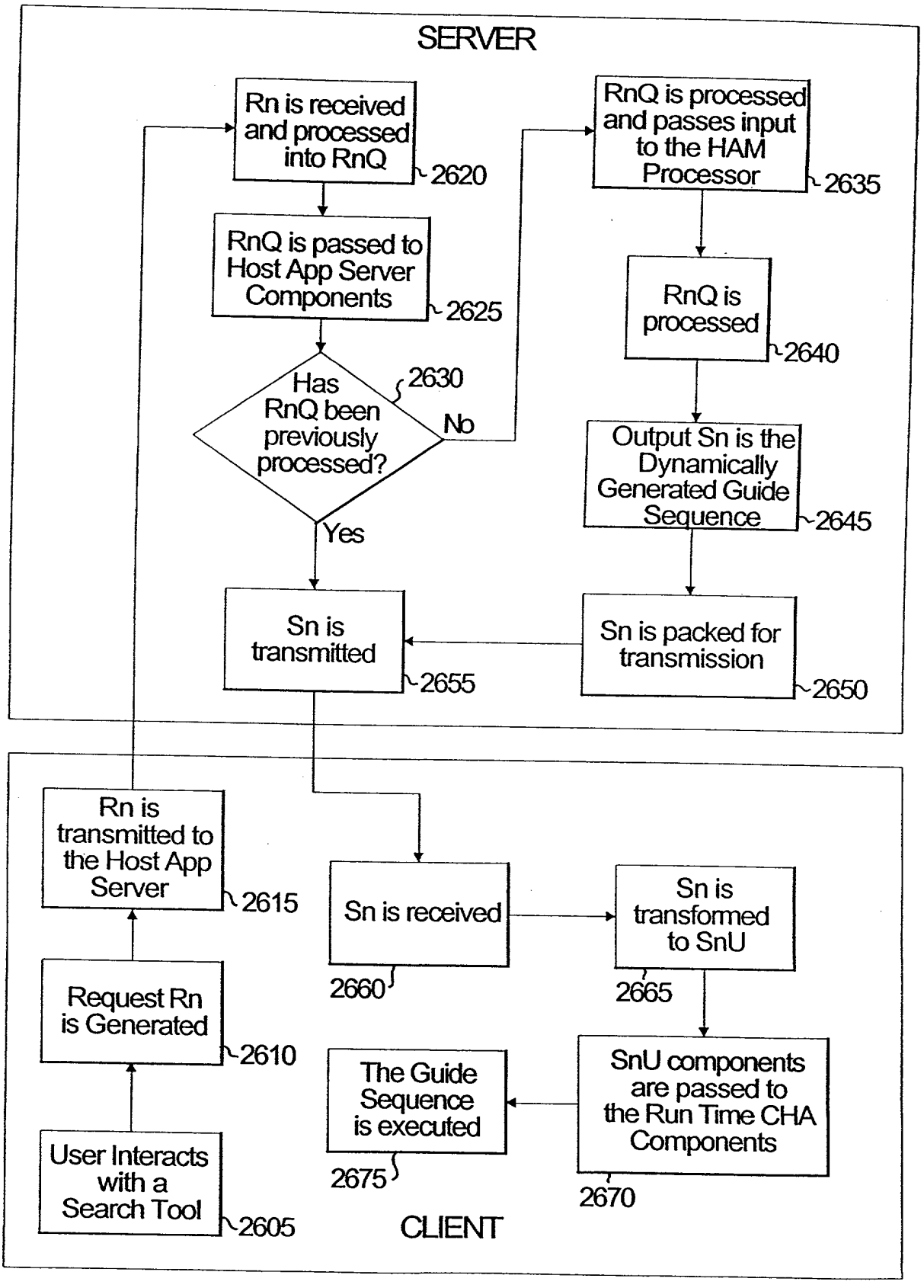

Extract Host App GuiFramework
505
Inspect Action Collection Header
510
Normalize the Session Monitor Data
515
520
Detect Single Action Event?
Delete from Session Monitor Data
525
530
Extend the current Sequence Chain?
Append Action Struct to Sequence Chain
535
Assign ILP Value to GuiObj
540
Check for GuiObj Proximity
545
Seek Continuous Action Structures
550
Locate Action Struct with the highest ILP values
555
570
End of Sequence Detection Phase?
560
Potential Sequence Detected?
565
Store into Index
575
Prepare Data for Guide Sequence Execution
580
With GuiObj Keys do lookups in Host App Model
585
Find Start Point
590
Proceed to Dynamic Guide Sequence Initialization (Fig. 13, 2123)

Fig. 16


SERVER
Rn is received and processed into RnQ
2620
RnQ is passed to Host App Server Components
2625
Has RnQ been previously processed?
2630
No
Yes
RnQ is processed and passes input to the HAM Processor
2635
RnQ is processed
2640
Output Sn is the Dynamically Generated Guide Sequence
2645
Sn is packed for transmission
2650
Sn is transmitted
2655
Rn is transmitted to the Host App Server
2615
Request Rn is Generated
2610
User Interacts with a Search Tool
2605
Sn is received
2660
Sn is transformed to SnU
2665
SnU components are passed to the Run Time CHA Components
2670
The Guide Sequence is executed
2675
CLIENT